



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

January 28, 2013

Mr. Dennis R. Madison  
Vice President  
Southern Nuclear Operating Company, Inc.  
Edwin I. Hatch Nuclear Plant  
11028 Hatch Parkway North  
Baxley, GA 31513

**SUBJECT: EDWIN I. HATCH NUCLEAR PLANT - NRC INTEGRATED INSPECTION  
REPORT 05000321/2012005, 05000366/2012005, 05000321/2012502, and  
05000366/2012502**

Dear Mr. Madison:

On December 31, 2012, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your E. I. Hatch Units 1 and 2. The enclosed inspection report documents the inspection results which were discussed on January 18, 2013, with Mr. David Vineyard and other members of your staff.

The inspections examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

One NRC identified finding and one self-revealing finding, both of very low safety significance (Green), were identified during this inspection. Each of these findings were determined to involve violations of NRC requirements. Additionally, the NRC has determined that two traditional enforcement Severity Level IV violations occurred. Further, licensee-identified violations which were determined to be of very low safety significance are listed in this report. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest these non-cited violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Hatch.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region II; and the NRC Resident Inspector at Hatch.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Document Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

*/RA/*

Frank Ehrhardt, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

Docket Nos.: 50-321, 50-366  
License Nos.: DPR-57 and NPF-5

Enclosures: Inspection Report 05000321/2012005, 05000366/2012005 EDWIN I. HATCH  
NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT  
05000321/2012005, 05000366/2012005, 05000321/2012502, and  
05000366/2012502  
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

D. Madison

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If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region II; and the NRC Resident Inspector at Hatch.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Document Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

**/RA/**

Frank Ehrhardt, Chief  
Reactor Projects Branch 2  
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w/Attachment: Supplemental Information

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Letter to Dennis R. Madison from Frank Ehrhardt dated January 28, 2013

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT - NRC INTEGRATED INSPECTION  
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**U. S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

Docket Nos.: 50-321, 50-366

License Nos.: DPR-57 and NPF-5

Report Nos.: 05000321/2012005, 05000366/2012005,  
05000321/2012502, and 05000366/2012502

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Edwin I. Hatch Nuclear Plant

Location: Baxley, Georgia 31513

Dates: October 1 – December 31, 2012

Inspectors: E. Morris, Senior Resident Inspector  
D. Hardage, Resident Inspector  
M. Schwieg, Resident Inspector (Brunswick)  
S. Sandal, Senior Reactor Inspector (4OA5.2)  
M. Miller, Senior Project Engineer  
J. Laughlin, Emergency Preparedness Inspector (1EP4)  
M. Speck, Senior Emergency Preparedness Inspector  
(1EP2, 1EP3, 1EP5, 4OA1, 4OA6)  
D. Berkshire, Emergency Preparedness Inspector  
(1EP2, 1EP3, 1EP5, 4OA1, 4OA6)  
W. Loo, Senior Health Physicist  
(1EP2, 1EP3, 1EP5, 4OA1, 4OA6)  
B. Caballero, Senior Operations Engineer (1R11.3)

Approved by: Frank Ehrhardt, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

Enclosure

## SUMMARY OF FINDINGS

IR 05000321/2012005, 05000366/2012005, 05000321/2012502, 05000366/2012502, 10/01/2012-12/31/2012; Edwin I. Hatch Nuclear Plant, Unit 1 & 2, Flood Protection Measures, Follow-up of Events and Notices of Enforcement Discretion, Other Activities.

The report covered a three-month period of inspection by three resident inspectors, a senior reactor inspector, a senior project engineer, three emergency preparedness inspectors, and a senior health physicist. There were two findings (one NRC identified, and one self revealing) identified and documented in this report. The significance of inspection findings are indicated by their color (i.e. greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP) dated June 2, 2011. The cross-cutting aspect was determined using IMC 0310, "Components Within The Cross-Cutting Areas" dated October 28, 2011. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated October 1, 2010. The NRC's program for overseeing the safe operations of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process" revision 4.

### Cornerstone: Mitigating Systems

- Green. The NRC identified a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," on October 16, 2012, when the licensee failed to maintain safety-related cables in an environment for which they were designed. Specifically, safety-related cables are not designed for continuous submersion in water. The inspectors determined that a diesel fuel oil storage tank level transmitter cable and the emergency diesel generator 2A fuel oil pump 2A2 power cable were exposed to continuous submersion in water. The licensee removed the accumulated water from the pull box and initiated condition report (CR) 534897 to enter this condition into the corrective action program for resolution.

Failure to maintain safety-related cables in an environment for which they were designed does not meet the 10 CFR Part 50, Appendix B, Criterion III, "Design Control" requirement. The licensee should have identified this violation when addressing Generic Letter 2007-01 and therefore, this failure is a performance deficiency. The finding was more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, because it is associated with the Equipment Performance attribute and adversely affected the Mitigating Systems Cornerstone objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, subjecting a diesel fuel oil storage tank level transmitter cable and the 2A emergency diesel generator fuel oil transfer pump cable to continuous submersion could degrade the cable and result in failure. In accordance with IMC 0609, Attachment 4, Exhibit 2, "Mitigating Systems Screening Questions", dated June 19, 2012, the finding was determined to be of very low safety significance (Green) because questions 1 through 4 of Section A, "Mitigating SSCs and Functionality," were answered "no." The inspectors determined that the finding does not have a cross-cutting aspect because the cause of the finding was directly related to the licensee's Generic Letter

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2007-01 review. This review occurred more than 3 years ago; therefore, the performance deficiency is not indicative of present licensee performance. (Section 1R06)

#### Cornerstone: Barrier Integrity

- Severity Level IV. The NRC identified an NCV of 10 CFR 50.72(b)(3)(ii)(A) and 10 CFR 50.73(a)(2)(ii)(A), when the licensee failed to provide an 8-hour event notification and a licensee event report (LER) within 60 days to the NRC for the plant being in a condition that caused a principal safety barrier to be seriously degraded, after a cracked weld was discovered in the reactor coolant system boundary on March 13, 2012. The licensee generated CR 557188 to document the failure to provide the required notification and report to the NRC.

Failure to report a seriously degraded principal safety barrier as required by 10 CFR 50.72(b)(3)(ii)(A) and 10 CFR 50.73(a)(2)(ii)(A) was a performance deficiency. Using the guidance of IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, the inspectors determined the performance deficiency involved a violation that could have impacted the regulatory process, therefore, this violation was dispositioned using the traditional enforcement process. In accordance with Section 6.9.d.9 of the NRC Enforcement Policy, a failure to make a report required by 10 CFR 50.72 or 50.73 is a Severity Level IV violation. Cross-cutting aspects are not assigned to traditional enforcement violations. (Section 4OA3.1)

#### Cornerstone: Emergency Preparedness

- Green. A self-revealing NCV of 10 CFR Part 50.54(q)(2), was identified when the licensee failed to maintain an adequate on-site Technical Support Center (TSC) to support emergency response. The violation existed from November 10 to December 22, 2011, when the TSC ventilation system was returned to service following a modification which replaced the TSC air conditioning cooling coils and condensing unit. During the modification, the control circuit transformer for the new cooling coil and condensing unit was not adequately sized to provide full system load. This resulted in a loss of the TSC air conditioning climate control system on December 21, 2011, when the undersized transformer tripped on thermal overload. The licensee replaced the undersized transformer with a properly sized transformer and entered this issue into their corrective action program as CR 386124.

The licensee's installation of a transformer for the TSC cooling coil and condensing unit control circuit that was not adequately designed to provide full system load was a performance deficiency. On December 21, 2011, this failure directly led to the licensee failing to meet 10 CFR 50.47(b)(8) which requires, in part, that adequate emergency facilities to support the emergency response are provided and maintained. The licensee failed to identify the undersized transformer design deficiency during both their modification documentation reviews and post modification testing. The performance deficiency was more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, because it is associated with the Facilities and Equipment attribute and

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adversely affected the Emergency Preparedness Cornerstone objective of ensuring the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, with the cooling coil and condensing unit control circuit transformer in a tripped condition the TSC is non-functional per the site's Technical Requirements Manual. This finding was evaluated in accordance with IMC 0609, Appendix B, "Emergency Preparedness Significance Determination Process," dated February 24, 2012. Utilizing Attachment 2 of IMC 0609, Appendix B, the inspectors determined the finding is associated with planning standard function 10 CFR 50.47(b)(8) Emergency Facilities and Equipment, which is not a risk-significant planning standard. Therefore the first two blocks (Loss of Risk Significant Planning Standard and Risk Significant Planning Standard Degraded Function) were answered, "no". The inspectors determined there was not a loss of the (b)(8) planning standard function, because the transformer was able to be reset, restoring air conditioning to the TSC, and key emergency response members would have been able to perform their assigned emergency plan function. Therefore per the flowchart this violation screened as Green. The finding has a cross cutting aspect in the resource component of the human performance area because DCP SNC330548, "Remove/Replace Cooling Coil and Condensing Unit serving TSC (1X75-B001 and 1X75-B002)," did not ensure the transformer for the cooling coil and condensing unit control circuit was designed to supply full control circuit load under high load demand. [H.2.(c)] (Section 4OA5.4)

Violations of very low safety significance or severity level IV that were identified by the licensee have been reviewed by the NRC. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and corrective action tracking numbers are listed in Section 4OA7 of this report.

## REPORT DETAILS

### Summary of Plant Status

Unit 1 operated throughout the inspection period at or near 100 percent rated thermal power (RTP).

Unit 2 began the inspection period at or near 100 percent RTP. On October 25, plant operators reduced Unit 2 power to 88 percent RTP in response to high condensate temperature. The operators returned Unit 2 to 100 percent RTP on October 26, and remained at or near 100 percent RTP for the remainder of the inspection period.

### 1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

#### 1R01 Adverse Weather Protection (71111.01)

##### a. Inspection Scope

##### Seasonal Extreme Weather Conditions

The inspectors conducted a detailed review of the station's adverse weather procedures written for extreme low temperatures. The inspectors verified that weather related equipment deficiencies identified during the previous year had been corrected prior to the onset of seasonal extremes. The inspectors evaluated the licensee's implementation of adverse weather preparation procedures and compensatory measures before the onset of seasonal extreme cold weather conditions. Documents reviewed are listed in the Attachment. The inspectors evaluated the following risk-significant areas:

- Intake structure
- Condensate storage tanks

##### b. Findings

No findings were identified.

#### 1R04 Equipment Alignment (71111.04)

##### a. Inspection Scope

##### Partial Walkdowns

The inspectors verified that critical portions of selected risk-significant systems were correctly aligned. The inspectors selected systems for assessment because they were a redundant or backup system/train, were important for mitigating risk for the current plant conditions, had been recently realigned, or were a single-train system. The inspectors

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determined the correct system lineup by reviewing plant procedures and drawings. The inspectors verified that critical portions of the selected systems were correctly aligned by performing partial walkdowns. Documents reviewed are listed in the Attachment. The inspectors selected the following three systems/trains to inspect:

- Unit 1 A train of residual heat removal service water system while B train was out of service for maintenance, October 18
- Unit 1 A train of plant service water system while B train was out of service for maintenance, October 22
- Unit 2 B train of the residual heat removal system while the A train of the residual heat removal system was out of service for maintenance, November 5

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05AQ)

a. Inspection Scope

Quarterly Inspection

The inspectors evaluated the adequacy of selected fire plans by comparing the fire plans to the defined hazards and defense-in-depth features specified in the fire protection program. In evaluating the fire plans the inspectors assessed the following items: (1) control of transient combustibles and ignition sources, (2) fire detection systems, (3) water-based fire suppression systems, (4) gaseous fire suppression systems, (5) manual firefighting equipment and capability (6) passive fire protection features, (7) compensatory measures and fire watches, and (8) issues related to fire protection contained in the licensee's corrective action program. The inspectors toured the following five fire areas to assess material condition and operational status of fire protection equipment. Documents reviewed are listed in the Attachment.

- Unit 1 and 2, diesel fuel storage tanks, fire zones 1610-12, 2610, 2612
- Unit 1, switchgear rooms, fire zones 1404, 1408, 1412
- Unit 2, standby gas filter room and heating and ventilation room, fire zones 2205Q, 2205T
- Unit 1 and 2, condensate storage tanks, fire zone 1603, 2603
- Unit 2, reactor building elevation 203 working floor and stack monitoring room, fire zones 2205X, 2205Y

b. Findings

No findings were identified.

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1R06 Flood Protection Measures (71111.06)a. Inspection ScopeUnderground Cables

The inspectors reviewed related flood analysis documents and inspected the areas listed below that contain cables whose failure could disable risk significant equipment. The inspector directly observed the condition of cables and cable support structures and, as applicable, verified that dewatering devices and drainage systems were functioning properly. In addition, the inspectors verified the licensee was identifying and properly addressing issues using their corrective action program. Documents reviewed are listed in the Attachment.

- PB1-DP, pull box located near emergency diesel generator fuel oil storage tanks
- PB1-DO, pull box located near emergency diesel generator fuel oil storage tanks

b. Findings

Introduction: The NRC identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," on October 16, 2012, when the licensee failed to maintain safety-related cables in an environment for which they were designed. Specifically, a diesel fuel oil storage tank level transmitter cable and the emergency diesel generator 2A fuel oil pump 2A2 power cable were exposed to continuous submersion in water.

Description: On October 16, 2012, during an NRC inspection of underground cable pull boxes PB1-DP and PB1-DO, safety-related cables were identified as submerged in approximately 1.5 inches of water. The submerged low-voltage cables were identified as a diesel fuel oil storage tank level transmitter cable (RUE820M02) and the emergency diesel generator 2A fuel oil transfer pump 2A2 cable (RSE826M01). The inspectors determined that the cable design qualification does not include continuous submerged conditions. The inspectors also determined that the licensee did not thoroughly evaluate the condition described in NRC Generic Letter 2007-01, "Inaccessible or Underground Power Cable Failures that Disable Accident Mitigation Systems or Cause Plant Transients." Specifically, the licensee did not identify pull boxes PB1-DP and PB1-DO as containing safety-related cables during their Generic Letter 2007-01 review. Therefore, these pull boxes were not included in the licensee's modification scope to raise safety-related cables from the bottom of the pull boxes to prevent cable submergence. The licensee removed the accumulated water from the pull boxes and wrote CR 534897 to enter this condition into the corrective action program for resolution.

Analysis: Failure to maintain safety-related cables in an environment for which they were designed does not meet the 10 CFR Part 50, Appendix B, Criterion III, "Design Control" requirement. The licensee should have identified this violation when addressing Generic Letter 2007-01 and therefore, this failure is a performance deficiency. The finding was more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, because it is associated with the Equipment Performance attribute and adversely affected the Mitigating Systems Cornerstone

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objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, subjecting a diesel fuel oil storage tank level transmitter cable and the 2A emergency diesel generator fuel oil transfer pump cable to continuous submersion could degrade the cable and result in failure. In accordance with IMC 0609, Attachment 4, Exhibit 2, "Mitigating Systems Screening Questions", dated June 19, 2012, the finding was determined to be of very low safety significance (Green) because questions 1 through 4 of Section A, "Mitigating SSCs and Functionality," were answered "no." The inspectors determined that the finding does not have a cross-cutting aspect because the cause of the finding was directly related to the licensee's Generic Letter 2007-01 review. This review occurred more than 3 years ago; therefore, the performance deficiency is not indicative of present licensee performance.

Enforcement: 10 CFR Part 50, Appendix B, Criterion III, "Design Control" requires in part, that measures shall be established to ensure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. Contrary to the above, since the initial construction the licensee did not establish measures to correctly translate the design basis for safety-related cables RUE820M02 and RSE826M01 into specifications, drawings, procedures, and instructions. Specifically, cables RUE820M02 and RSE826M01 are not designed for continuous submersion in water, but were being maintained in a cable pull box containing standing water which submerged these cables. The licensee removed the water contained in the pull boxes to restore compliance. This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy because it was of very low safety significance and was entered into the licensee's corrective action program as CR 534897 to address recurrence. (NCV 05000366/2012005-01, Low Voltage Safety-related Cables Subjected to Water Submersion.)

1R11 Licensed Operator Requalification Program and Licensed Operator Performance (71111.11)

.1 Resident Inspector Quarterly Review of Licensed Operator Requalification

a. Inspection Scope

On October 11, the inspectors observed the performance of licensee job performance measures (JPMs), including:

- maximize control rod drive flow during a control room evacuation
- startup of a reactor feed pump turbine
- vent primary containment alternate path
- actuate the diesel generator room carbon dioxide system alternate path
- determine the evacuation route during an emergency.

The inspectors reviewed the JPMs for examination administration errors, and independently assessed the facility instructor results of the examinee performance for the JPMs observed. Documents reviewed are listed in the Attachment.

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b. Findings

No findings were identified.

.2 Resident Inspector Quarterly Review (Licensed Operator Performance):

a. Inspection Scope

The inspectors observed licensed operator performance in the main control room during a loss of the running 2C air compressor and preparation for the Unit 1 condensate storage tank inspection. Inspectors observed licensed operator performance to assess the following:

- Use of plant procedures
- Control board manipulations
- Communications between crew members
- Use and interpretation of instruments, indications, and alarms
- Use of human error prevention techniques
- Documentation of activities
- Management and supervision

Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.3 Annual Review of Licensee Regualification Examination Results (71111.11A)

a. Inspection Scope

On November 28, 2012, the licensee completed administering the annual requalification operating test, which is required to be administered to all licensed operators in accordance with 10 CFR 55.59(a)(2). The inspectors performed an in-office review of the overall pass/fail results of the individual operating tests and the crew simulator operating tests. These results were compared to the thresholds established in Manual Chapter 609, Appendix I, Operator Regualification Human Performance Significance Determination Process.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)a. Inspection Scope

The inspectors assessed the licensee's treatment of the issues listed below in order to verify the licensee appropriately addressed equipment problems within the scope of the Maintenance Rule (10 CFR 50.65). The inspectors reviewed procedures and records in order to evaluate the licensee's identification, assessment, and characterization of the problems as well as their corrective actions for returning the equipment to a satisfactory condition. Documents reviewed are listed in the Attachment. The inspectors also interviewed system engineers and the maintenance rule coordinator to assess the accuracy of performance deficiencies and extent of condition.

- Unit 1, residual heat removal system, 1E11
- Unit 1 and Unit 2, condensate and feedwater system, N21 and C32

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)a. Inspection Scope

The inspectors reviewed the maintenance activities listed below to verify the licensee assessed and managed plant risk as required by 10 CFR 50.65(a)(4) and licensee procedures. The inspectors assessed the adequacy of the licensee's risk assessments and implementation of risk management actions. The inspectors also verified that the licensee was identifying and resolving problems with assessing and managing maintenance-related risk using the corrective action program. Additionally, for maintenance resulting from unforeseen situations, the inspectors assessed the effectiveness of the licensee's planning and control of emergent work activities. Documents reviewed are listed in the Attachment.

- Week of September 29 – October 5, including 1A turbine building chiller outage, Unit 1 and 2 manual scram functional testing, 1A reactor protection system motor generator electrical preventive maintenance and bushing replacement, river dredging, and pre-outage main transformer foundation construction in unit 2 switchyard.
- Week of October 8 – October 12, including scheduled maintenance on Unit 1 A plant service water pump and C condensate booster pump, and emergent work on Unit 2 B reactor protection system.
- Week of November 3 – November 9, including scheduled maintenance on Unit 2 A residual heat removal system, Unit 2 A diesel generator battery charger, and Unit 1 A diesel generator air compressor.

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- Week of November 10 – November 16, including scheduled maintenance on the Unit 2 high pressure coolant injection pump, replacement of the Duval line disconnect switch in the switchyard, and emergent maintenance on 2B standby gas filter train.
- Week of December 1 – December 7, including scheduled maintenance on Unit 1 A electro-hydraulic control pump, Unit 1 battery charger 1R42-S032E, Unit 2 G cooling tower fans, and Unit 2 C residual heat removal pump breaker.

b. Findings

No findings were identified.

1R15 Operability Evaluations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed the following three operability evaluations and compared the evaluations to the system requirements identified in the Technical Specifications (TS) and the Final Safety Analysis Report (FSAR) to ensure operability was adequately assessed and the system or component remained available to perform its intended function. Also, the inspectors assessed the adequacy of compensatory measures implemented as a result of the condition. Documents reviewed are listed in the Attachment.

- Emergency diesel generator 1B jacket water heat exchanger leak, CR 533593
- Primary containment isolation valve, 1D11-F050, leak test, CR 538802
- Secondary containment surveillance test invalid due to high standby gas treatment flow, CR 548475

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

For the following four post maintenance tests, the inspectors reviewed the test scope to verify the test demonstrated the work performed was completed correctly and the affected equipment was functional and operable in accordance with TS requirements. The inspectors also reviewed equipment status and alignment to verify the system or component was available to perform the required safety function. Documents reviewed are listed in the Attachment.

- WO SNC378202, Inspect 4160 volt breaker VAH-4005
- WO SNC105532, Repair leak on residual heat removal service water strainer 1E11-D003B

- WO SNC317208, 2E11-F007A electrical and spring pack Inspection
- WO SNC393941, repair Unit 2 high pressure coolant injection pump discharge check valve

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed two licensee surveillance test procedures and either witnessed the test or reviewed test records to determine if the scope of the test adequately demonstrated the affected equipment was operable. The inspectors reviewed these activities to assess for preconditioning of equipment, procedure adherence, and equipment alignment following completion of the surveillance. The inspectors reviewed licensee procedure NMP-GM-005-GL03, Human Performance Tools, and attended selected briefings to determine if procedure requirements were met. Documents reviewed are listed in the Attachment.

Risk Management Technical Specification Initiative 5b Surveillance Frequency Control Program Change

- 34SV-C11-003-1(2), Rod Control Exercise

In-Service Test

- 34SV-E11-001-2, 2A Residual Heat Removal Pump Operability, October 29

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert and Notification System Evaluation

a. Inspection Scope

The inspectors evaluated the adequacy of the licensee's methods for testing the alert and notification system in accordance with NRC Inspection Procedure 71114, Attachment 02, Alert and Notification System Evaluation. The applicable planning standard, 10 CFR Part 50.47(b)(5) and its related 10 CFR Part 50, Appendix E, Section IV.D requirements were used as reference criteria. The criteria contained in NUREG-0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, Revision 1, were also used as a reference.

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Documents reviewed are listed in the Attachment. This inspection activity satisfied one inspection sample for the alert and notification system on a biennial basis.

b. Findings

No findings were identified.

1EP3 Emergency Response Organization Staffing and Augmentation System

a. Inspection Scope

The inspectors reviewed the licensee's Emergency Response Organization (ERO) augmentation staffing requirements and process for notifying the ERO to ensure the readiness of key staff for responding to an event and timely facility activation. The qualification records of key position ERO personnel were reviewed to ensure all ERO qualifications were current. A sample of problems identified from augmentation drills or system tests performed since the last inspection was reviewed to assess the effectiveness of corrective actions.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 03, Emergency Response Organization Staffing and Augmentation System. The applicable planning standard, 10 CFR 50.47(b)(2), and its related 10 CFR 50, Appendix E requirements were used as reference criteria.

The inspectors reviewed various documents which are listed in the Attachment. This inspection activity satisfied one inspection sample for the ERO staffing and augmentation system on a biennial basis.

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

The office of Nuclear Security and Incident Response headquarters staff performed an in-office review of the latest revisions of various Emergency Plan Implementing Procedures (EPIPs) and the Emergency Plan located under ADAMS accession numbers ML12188A352, ML12081A211, and ML12093A204 as listed in the Attachment.

The licensee determined that in accordance with 10 CFR 50.54(q), the changes made in the revisions resulted in no reduction in the effectiveness of the Plan, and that the revised Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The NRC review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, these revisions are

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subject to future inspection. The specific documents reviewed during this inspection are listed in the Attachment. This inspection activity satisfied one inspection sample for the emergency action level and emergency plan changes on an annual basis.

b. Findings

No findings were identified.

1EP5 Maintenance of Emergency Preparedness

a. Inspection Scope

The inspectors reviewed the corrective actions identified through the Emergency Preparedness program to determine the significance of the issues, the completeness and effectiveness of corrective actions, and to determine if issues were recurring. The licensee's post-event after action reports, self-assessments, and audits were reviewed to assess the licensee's ability to be self-critical, thus avoiding complacency and degradation of their emergency preparedness program. The licensee's 10 CFR 50.54(q) change process and selected evaluations of Emergency Preparedness document revisions were reviewed to assess adequacy. The inspectors toured facilities and reviewed equipment and facility maintenance records to assess licensee's adequacy in maintaining them. In addition, the inspectors reviewed licensee procedures and training for the evaluation of changes to the emergency plans.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 05, Maintenance of Emergency Preparedness. The applicable 10 CFR 50.47(b) planning standards and related 10 CFR 50, Appendix E requirements were used as reference criteria.

Documents reviewed are listed in the Attachment. This inspection activity satisfied one inspection sample for the maintenance of emergency preparedness on a biennial basis.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification (71151)

.1 Mitigating Systems

a. Inspection Scope

The inspectors reviewed a sample of the licensee submittals for the performance indicators listed below to verify the accuracy of the data reported. The PI definitions and the guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Rev. 6 and licensee procedure 00AC-REG-005-0, Preparation and Reporting of NRC PI Data,

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were used to verify procedure and reporting requirements were met. The inspectors reviewed raw PI data collected between October 2011 and October 2012 and inspectors compared graphical representations from the most recent PI report to the raw data to verify the data was included in the report. The inspectors also examined a sample of operations logs and procedures to verify the PI data was appropriately captured for inclusion into the PI report, and the individual PIs were calculated correctly. Applicable licensee event reports (LERs) issued during the referenced time frame were also reviewed. Documents reviewed are listed in the Attachment.

#### Cornerstone: Mitigating Systems

- Safety System Functional Failures
- Heat Removal System
- Cooling Water Systems

#### b. Findings

No findings were identified.

### .2 Emergency Preparedness

#### a. Inspection Scope

The inspectors sampled licensee submittals relative to the PIs listed below for the period October 1, 2011, and September 30, 2012. To verify the accuracy of the PI data reported during that period, PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, were used to confirm the reporting basis for each data element. For the specified review period, the inspector examined data reported to the NRC, procedural guidance for reporting PI information, and records used by the licensee to identify potential PI occurrences. The inspectors verified the accuracy of the PI for ERO drill and exercise performance through review of a sample of drill and event records. The inspectors reviewed selected training records to verify the accuracy of the PI for ERO drill participation for personnel assigned to key positions in the ERO. The inspectors also interviewed the licensee personnel who were responsible for collecting and evaluating the PI data. Licensee procedures, records, and other documents reviewed within this inspection area are listed in the Attachment. This inspection satisfied two inspection samples for PI verification on an annual basis.

#### Emergency Preparedness Cornerstone

- Drill/Exercise Performance (DEP)
- Emergency Response Organization Drill Participation (ERO)

#### b. Findings

No findings were identified.

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#### 4OA2 Problem Identification and Resolution (71152)

##### .1 Daily Screening of Corrective Action Items

As required by Inspection Procedure 71152, Identification and Resolution of Problems, and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. This review was accomplished by either attending daily screening meetings that briefly discussed major CRs, or accessing the licensee's computerized corrective action database and reviewing each CR that was initiated.

##### .2 Annual Samples:

###### a. Inspection Scope

The inspectors performed a detailed review of the following CR to verify the full extent of the issues were identified, an appropriate evaluation was performed, and appropriate corrective actions were specified and prioritized. The inspectors evaluated the CR against the licensee's corrective action program as delineated in licensee procedure NMP-GM-002, Corrective Action Program, and 10 CFR 50, Appendix B. Documents reviewed are listed in the Attachment.

- CR 407665, Equipment challenges result in entering TS shutdown required action statement on three occasions

###### b. Findings and Observations

No findings were identified.

##### .3 Semi-Annual Trend Review

###### a. Inspection Scope

The inspectors performed a review of the licensee's corrective action program and associated documents to identify trends which could indicate the existence of a more significant safety issue. The inspectors review focused on repetitive equipment issues, but also considered the results of inspector daily CR screening, licensee trending efforts, and licensee human performance results. The review nominally considered the six month period of July 2012 through December 2012 although some examples extended beyond those dates when the scope of the trend warranted. The inspectors compared their results with the results contained in the licensee's quarterly trend reports. Corrective actions associated with a sample of the issues identified in the licensee's trend reports were reviewed for adequacy. The inspectors also evaluated the trend reports against the requirements of the licensee's corrective action program as specified in licensee procedure NMP-GM-002, Corrective Action Program, and 10 CFR 50, Appendix B. Documents reviewed are listed in the Attachment.

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b. Findings and Observations

No findings were identified.

4OA3 Follow-up of Events and Notices of Enforcement Discretion (71151)

.1 (Closed) LER 05000321/2012-003 Leak in Reactor Pressure Boundary at Small Bore Piping Fillet Weld

a. Inspection Scope

The inspectors reviewed this LER for performance deficiencies and/or violations of regulatory requirements. Additionally, discussions were held with Operations, Engineering, and Licensing staff members to understand the details surrounding this issue. This condition was documented in the licensee's corrective action program as CR 423179. Violations identified are documented below, and in Section 4OA7 of this report. LER 05000321/2012-003 and 0500321/2012-003 Rev. 1 are closed.

b. Findings

Introduction: The NRC identified a Severity Level IV, NCV of 10 CFR 50.72(b)(3)(ii)(A) and 10 CFR 50.73(a)(2)(ii)(A), for the licensee's failure to provide an 8-hour notification and an LER within 60 days to the NRC for the plant being in a condition that caused a principal safety barrier to be seriously degraded.

Description: On March 13, 2012, while the licensee was conducting a primary coolant system pressure test, a cracked weld for the high pressure coolant injection system was identified which the licensee determined was unacceptable in accordance with ASME standards. The licensee recognized that a 60-day LER was required by 10 CFR 50.73(a)(2)(i)(B) for a condition prohibited by Technical Specifications. However, the licensee failed to identify that an 8-hour 10 CFR 50.72 notification and a 60-day LER notification was also required for a condition that caused a principal safety barrier to be seriously degraded. The licensee initially screened this event as not reportable under 10 CFR 50.72 because at the time of discovery the plant was in Mode 4 and the primary coolant system boundary was not required to be operable. However, 10 CFR 50.72(a)(1)(ii) states, in part, that a notification is required for those non-emergency events specified in paragraph (b) of this section that occurred within three years of the date of discovery. The inspectors reviewed the event reporting guidelines contained in NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73," Revision 2. Section 3.2.4 states, in part, that an LER is required for a seriously degraded principal safety barrier and if not reported under 10 CFR 50.72(a), (b)(1), or (b)(2), an ENS notification is required under 10 CFR 50.72(b)(3) [an 8-hour report]. Section 3.2.4 (A)(2) of NUREG-1022 also provides an example of a seriously degraded principal safety barrier as the identification of material defects in the primary coolant system which cannot be found acceptable under ASME Section XI, IWB-3600, "Analytical Evaluation of Flaws" or ASME Section XI, Table IWB-3410-1, "Acceptable Standards." The inspectors determined that the material defect (cracked weld) was subject to the

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reporting requirements of 10 CFR 50.73(a)(2)(ii)(A) and 10 CFR 50.72(b)(3)(ii)(A) [8-hour notification]. The licensee repaired the cracked weld, and entered this violation into their corrective action program as CR 557188.

Analysis: Failure to report a seriously degraded principal safety barrier as required by 10 CFR 50.72(b)(3)(ii)(A) and 10 CFR 50.73(a)(2)(ii)(A) was a performance deficiency. Using the guidance of IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, the inspectors determined the performance deficiency involved a violation that could have impacted the regulatory process, therefore, this violation was dispositioned using the traditional enforcement process. In accordance with Section 6.9.d.9 of the NRC Enforcement Policy, a failure to make a report required by 10 CFR 50.72 or 50.73 is a Severity Level IV violation. Cross-cutting aspects are not assigned to traditional enforcement violations.

Enforcement: 10 CFR 50.72(a)(1)(ii) states, in part, that a notification is required for those non-emergency events specified in paragraph (b) of this section that occurred within three years of the date of discovery. 10 CFR 50.72(b)(3)(ii)(A) requires, in part, that operating reactor licensees shall notify the NRC within 8 hours of the occurrence of any condition of the nuclear power plant, including its principal safety barriers, being seriously degraded. Contrary to the above, on March 13, 2012, the licensee failed to notify the NRC within 8 hours after a material defect was identified in the primary coolant system boundary, which in accordance with NUREG-1022 is identified as a seriously degraded principal safety barrier. 10 CFR 50.73(a)(1) states, in part, that a licensee shall submit an LER for any event of the type described within this paragraph within 60 days after the discovery of the event. 10 CFR 50.73(a)(2)(ii)(A) requires an LER for any event or condition that resulted in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded. Contrary to the above, prior to May 12, 2012, the licensee failed to submit a 60-day licensee event report in accordance with 10 CFR 50.73(a)(2)(ii)(A) after a material defect was identified in the primary coolant system boundary, which in accordance with NUREG-1022 is identified as a seriously degraded principal safety barrier. These violations are treated as an NCV, consisted with Section 2.3.2 of the Enforcement Policy because it was Severity Level IV and was entered into the licensee's corrective action program as CR 557188 to address recurrence. (NCV 05000321/2012005-02, Failure to Report a Degraded Primary Safety Barrier in accordance with 10 CFR 50.72 and 10 CFR 50.73)

.2 (Closed) LER 05000321/2012-002 Failure of 1C EDG Output Breaker to Close Results in Condition Prohibited by Technical Specifications

a. Inspection Scope

The inspectors reviewed this LER for performance deficiencies and/or violations of regulatory requirements. Additionally, discussions were held with Operations, Engineering, and Licensing staff members to understand the details surrounding this issue. This condition was documented in the licensee's corrective action program as CR 421971. LER 05000321/2012-002 and 0500321/2012-002 Rev. 1 are closed.

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b. Findings

The enforcement aspects of this finding are discussed in Section 4OA7.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors conducted observations of security force personnel and activities to ensure that the activities were consistent with licensee security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status review and inspection activities.

b. Findings

No findings were identified.

.2 (Closed) NRC Temporary Instruction (TI) 2515/177, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems (NRC Generic Letter (GL) 2008-01)"

a. Inspection Scope

The inspectors reviewed the implementation of the licensee's actions in response to Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems." The inspectors reviewed the core spray system and the residual heat removal system (including the low pressure coolant injection mode of operation). The inspectors had previously reviewed licensee actions for the high pressure coolant injection system and reactor core isolation cooling system during the second quarter of 2012. The inspection status was discussed in NRC integrated inspection report 05000321, 366/2012003 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12213A734).

The following areas were reviewed during the inspection:

- The licensing basis of the facility to verify that actions to address gas accumulation were consistent with the operability requirements of the subject systems.
- The design of the subject systems to verify that actions taken to address gas accumulation were appropriate given the specifics of the functions, configurations, and capabilities of these systems.
- Selected analyses performed by the licensee to verify that methodologies for predicting gas void accumulation, movement, and impact were appropriate.

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- Walkdowns of selected systems to verify that the reviews and design verifications conducted by the licensee had drawn appropriate conclusions with respect to piping configurations and pipe slope which could result in gas accumulation susceptibility.
- Testing implemented by the licensee to address gas accumulation in subject systems. A selection of test procedures and completed test results were reviewed to verify that test procedures were appropriate to detect gas accumulations that could challenge subject systems.
- The specified testing frequencies to verify that the testing intervals had appropriately taken historical gas accumulation events as well as susceptibility to gas accumulation into account.
- The test programs and processes to verify that they were sensitive to pre-cursors to gas accumulation.
- The corrective actions associated with gas accumulation in subject systems to verify that identified issues were being appropriately identified and corrected.
- The locations of selected vent valves to verify that the locations selected were appropriate based on piping configuration and pipe slopes.

b. Findings and Observations

No findings were identified.

.3 (Closed) NRC Temporary Instruction (TI) 2515/188, "Inspection of Near-Term Task Force Recommendation 2.3 Seismic Walkdowns"

a. Inspection Scope

The inspectors accompanied the licensee on their seismic walkdowns of the Unit 2 B standby liquid control pump, Unit 2 standby gas filter train, Unit 2 G 4160 volt emergency bus, and motor control center 2R24-S022 to verify that the licensee confirmed that the following seismic features associated with these areas were free of the following potential adverse seismic conditions:

- Anchorage was free of bent, broken, missing or loose hardware
- Anchorage was free of corrosion that is more than mild surface oxidation
- Anchorage was free of visible cracks in the concrete near the anchors
- Anchorage configuration was consistent with plant documentation
- Structures, systems, components will not be damaged from impact by nearby equipment or structures
- Overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls are secure and not likely to collapse onto the equipment
- Attached lines have adequate flexibility to avoid damage
- The area appears to be free of potentially adverse seismic interactions that could cause flooding or spray in the area

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- The area appears to be free of potentially adverse seismic interactions that could cause a fire in the area
- The area appears to be free of potential adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)

The inspectors independently performed their walkdowns to verify that the Unit 1 residual heat removal and core spray pump room cooler 1T41-B002A, and the Unit 1 core spray / high pressure coolant injection leak detection instrument rack 1H21-P016 also met the above bulleted criteria.

Observations made during the walkdown that could not be determined to be acceptable were entered into the license's corrective action program for evaluation.

Additionally, the inspectors verified that items that could allow the spent fuel pool to drain down rapidly were added to the seismic walkdown equipment list and these items were walked down by the licensee.

b. Findings and Observations

No findings were identified.

.4 (Closed) Unresolved Item (URI) 05000321,366/2012002-02, Installation of a transformer for the TSC cooling coil and condensing unit control circuit not adequately designed to provide full system load.

a. Inspection Scope

The inspectors reviewed this URI for performance deficiencies and/or violations of regulatory requirements. Additionally, discussions were held with Operations, Engineering, Emergency Preparedness, and Licensing staff members to understand the details surrounding this unresolved item documented in Hatch integrated inspection report 2012002. This condition was documented in the licensee's corrective action program as CR 386124. URI 05000321/2012002-02 is closed.

b. Findings

Introduction: A self-revealing NCV of 10 CFR Part 50.54(q)(2), was identified when the licensee failed to maintain the effectiveness of their emergency plan due to an inadequate modification rendering the TSC degraded. The violation existed from November 10 to December 22, 2011, when the TSC ventilation system was returned to service following a modification which replaced the TSC air conditioning cooling coils and condensing unit. The modification did not ensure the control circuit transformer for the new cooling coil and condensing unit was adequately sized to provide full system load. This resulted in a loss of the TSC air conditioning climate control system on December 21, 2011, when the undersized transformer tripped on thermal overload.

Description: From November 4 to November 10, 2011, Hatch implemented a design change to the TSC ventilation system, DCP SNC330548, "Remove/Replace Cooling Coil and Condensing Unit serving TSC (1X75-B001 and 1X75-B002)" which included replacement of the air conditioning cooling coil and condensing unit control circuit transformer. On December 21, 2011, Operations department personnel noted TSC ambient temperature was increasing and the TSC air conditioning condensing units were not operating. The TSC air conditioning system was restarted by resetting the cooling coil and condensing unit control circuit transformer, and the licensee commenced an investigation to determine the cause of the trip. Investigation by the licensee determined that the TSC air conditioning system had responded to a high load cooling demand which caused both cooling coils and condensing units to run simultaneously. The licensee determined that the air conditioning cooling coil and condensing unit control circuit transformer was overloaded with both units running. The transformer's overload condition exceeded the protective trip set point resulting in loss of power to the TSC air conditioning condensing units. With the transformer in a tripped condition the TSC air conditioning system was unable to provide climate control the TSC, and therefore the TSC ventilation system was not available to provide its climate control function. 10 CFR 50.47(b)(8) requires, in part, that adequate emergency facilities to support the emergency response are provided and maintained. Hatch Unit 1 and Unit 2 Technical Requirements Manual bases section states in part that the TSC ventilation system for climate control is a requirement for the TSC to be functional. Climate control allows for a suitable environment to be maintained in the TSC for personnel occupancy and equipment operation during emergency events. The licensee replaced the undersized transformer with a properly rated transformer and restored the TSC function on December 22, 2011.

Analysis: The licensee's installation of a transformer for the TSC cooling coil and condensing unit control circuit that was not adequately designed to provide full system load was a performance deficiency. On December 21, 2011, this failure directly led to the licensee failing to meet 10 CFR 50.47(b)(8) which requires, in part, that adequate emergency facilities to support the emergency response are provided and maintained. The licensee failed to identify the undersized transformer design deficiency before completing the modification and associated modification documentation reviews and post modification testing. The performance deficiency was more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, because it is associated with the Facilities and Equipment attribute and adversely affected the Emergency Preparedness Cornerstone objective of ensuring the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, with the cooling coil and condensing unit control circuit transformer in a tripped condition the TSC is non-functional per Hatch's Technical Requirements Manual. This finding was evaluated in accordance with IMC 0609, Appendix B, "Emergency Preparedness Significance Determination Process," dated February 24, 2012. Utilizing Attachment 2 of IMC 0609, Appendix B, the inspectors determined the finding is associated with planning standard function 10 CFR 50.47(b)(8) Emergency Facilities and Equipment, which is not a risk-significant planning standard. Therefore the first two blocks (Loss of Risk Significant Planning Standard and Risk Significant Planning Standard Degraded Function) were answered, "no." The inspectors determined there was not a loss of the (b)(8) planning

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standard function because the transformer was able to be reset restoring air conditioning to the TSC and key emergency response members would have been able to perform their assigned emergency plan function. Therefore per the flowchart this violation screened as Green. The finding has a cross cutting aspect in the resource component of the human performance area because DCP SNC330548, "Remove/Replace Cooling Coil and Condensing Unit serving TSC (1X75-B001 and 1X75-B002)" did not ensure the transformer for the cooling coil and condensing unit control circuit was designed to supply full control circuit load under high load demand. [H.2.(c)]

Enforcement: 10 CFR Part 50.54(q)(2), requires that a holder of a nuclear power reactor operating license under this part shall follow and maintain in effect emergency plans which meet the standards in § 50.47(b). 10 CFR 50.47(b)(8), requires that adequate emergency facilities and equipment to support the emergency response are provided and maintained. Contrary to the above, from November 10 to December 22, 2011, the licensee failed to maintain in effect a provision of its emergency plan in that adequate emergency facilities and equipment to support emergency response were not provided when portions of the TSC ventilation system were replaced with equipment not adequately designed to perform under all required conditions. This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy because it was of very low safety significance and was entered into the licensee's corrective action program as CR 386124 to address recurrence. (NCV 05000321/2012005-03; 05000366/2012005-03, Installation of a transformer for the TSC cooling coil and condensing unit control circuit not adequately designed to provide full system load)

#### 4OA6 Meetings, Including Exit

On January 18, 2013, the resident inspectors presented the inspection results to Mr. David Vineyard and other members of the licensee's staff. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

#### 4OA7 Licensee-Identified Violations

The following violations of very low safety significance (Green) or Severity Level IV were identified by the licensee and are violations of NRC requirements which meet the criteria of the NRC Enforcement Policy for being dispositioned as a Non-Cited Violation.

- A licensee-identified violation of Hatch Unit 1 TS 3.4.4, Reactor Coolant System Operational Leakage, was discovered on March 13, 2012, during the performance of a reactor pressure vessel pressure test. TS 3.4.4 requires, in part, that reactor coolant system operational leakage shall be limited to no pressure boundary leakage in Modes 1, 2, and 3. Contrary to this requirement a through-wall leak was identified in a small bore line located upstream of a high pressure coolant injection isolation valve resulting in pressure boundary leakage during Modes 1, 2, and 3. The inspectors utilized IMC 0609 Appendix A, Exhibit 1, "Initiating Events Screening Questions," dated July 1, 2012, and determined this violation screened as Green because the through-wall leak did not result in exceeding the reactor coolant system

leak rate for a small loss of coolant accident, and did not adversely affect other systems used to mitigate a loss of coolant accident. The licensee entered this violation into their corrective action program as CR 423179. (Section 4OA3.1)

- A licensee-identified violation of Hatch Unit 1 TS 3.8.1, "Electrical Power Systems Alternating Current (AC) Sources – Operating," was discovered on March 10, 2012 during the performance of surveillance testing for the 1C emergency diesel generator. TS 3.8.1 requires, in part, during Unit 1 Modes, 1, 2, and 3 that two Unit 1 diesel generators are operable. Contrary to TS 3.8.1 Unit 1 operated in Modes 1, 2, and 3 without two operable Unit 1 diesel generators. Specifically, the 1C emergency diesel generator output breaker failed to close as required upon a loss of electrical power to the 1G 4160 volt AC bus. The licensee's investigation determined the cause of the breaker closure failure was due to an improper wiring configuration within the 1G 4160 volt AC alternate supply breaker which had existed since March 16, 2010. The inspectors determined per IMC 0612 Appendix B, "Issue Screening," dated September 7, 2012, and IMC 0609, Appendix A, "The Significance Determination Process For Findings At-Power," dated July 1, 2012, that a detailed risk assessment was required. Regional senior reactor analysts' performed the detailed risk assessment which determined the associated risk was less than 1E-6 core damage frequency, and less than 1E-7 large early release frequency. Therefore, this violation screened as Green. The licensee entered this violation into their corrective action program as CR 421971. (Section 4OA3.2)

ATTACHMENT: SUPPLEMENTAL INFORMATION

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## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee personnel

B. Anderson, Health Physics Manager  
S. Beverly, Nuclear Licensing Engineer  
G. Brinson, Maintenance Manager  
V. Coleman, Chemistry Manager  
C. Clark, System Engineer  
M. Crosby, Engineering Programs  
C. Lane, Engineering Director  
K. Long, Operators Director  
D. Madison, Hatch Vice President  
C. Sexton, System Engineer  
S. Tipps, Lead Nuclear Licensing Engineer  
K. Underwood, Performance Improvement Supervisor  
D. Vineyard, Plant Manager

### **LIST OF ITEMS OPENED AND CLOSED**

#### Closed

05000321/2012-003 and 05000321/2012-003 Rev. 1	LER	Leak in Reactor Pressure Boundary at Small Bore Piping Fillet Weld (Section 4OA3.1)
05000321/2012-002 and 05000321/2012-002 Rev. 1	LER	Failure of 1C EDG Output Breaker to Close Results in Condition Prohibited by Technical Specifications (Section 4OA3.2)
05000321,366/2515/177	TI	Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems (NRC Generic Letter (GL) 2008-01) (Section 4OA5.2)
05000321,366/2515/188	TI	Inspection of Near-Term Task Force Recommendation 2.3 Seismic Walkdowns (Section 4OA5.3)
05000321,366/2012002-02	URI	Installation of a transformer for the TSC cooling coil and condensing unit control circuit not adequately designed to provide full system load. (Section 4OA5.4)

Opened & Closed

05000366/2012005-01	NCV	Low Voltage Safety-related Cables Subjected to Water Submersion. (Section 1R06)
05000321/2012005-02	NCV	Failure to Report a Degraded Primary Safety Barrier in accordance with 10 CFR 50.72 and 10 CFR 50.73. (Section 4OA3.1)
05000321,366/2012005-03	NCV	Installation of a transformer for the TSC cooling coil and condensing unit control circuit not adequately designed to provide full system load. (Section 4OA5.4)

**LIST OF DOCUMENTS REVIEWED****Section 1R01: Adverse Weather**Procedures

DI-OPS-36-0989, Cold Weather Checks  
 52PM-MEL-005-0, Cold Weather Checks

Work Order

387190

Other

Individual Plant Examination of External Events

**Section 1R04: Equipment Alignment**Procedures

34SO-E11-010-1, Residual Heat Removal System, Ver. 39.1  
 34SO-P41-001-1, Plant Service Water System, Ver. 34.0  
 34SO-E11-010-2, Residual Heat Removal System, Ver. 39.2

Drawings

D-11004, Unit No. 1 P&ID – RHR Service Water Outside Building  
 D-11001, P&ID for Service Water Piping at Intake Structure  
 H-26014, P&ID for Residual Heat Removal Unit 2 sheet 1  
 H-26015, P&ID for Residual Heat Removal Unit 2 sheet 2

Condition Reports

535164

Other

E.I. Hatch Final Safety Analysis Report  
 Control Room Logs



**Section 1R05: Fire Protection****Procedures**

E.I. Hatch Fire Protection Fire Hazards Analysis

42FP-FPX-018-0, Use, Control and Storage of Flammable/Combustible Materials, Ver. 1.2

34AB-X43-001-1, Fire Procedure, Ver. 10.25

42SV-FPX-024-0, Fire Hose Stations – Appendix B Areas, Ver. 3.2

**Drawings**

A-43965 sheet [Number]A/B, Unit X Pre-Fire Plan [Area]

A-43965 sheet 115A/B, Unit 2 Pre-Fire Plan Standby Gas Filter Room

A-43965 sheet 118A/B, Unit 2 Pre-Fire Plan HVAC Room

A-43965 sheet 121A/B, Unit 2 Pre-Fire Plan Stack Monitoring Room Reactor Building Elevation 203'

A-43965 sheet 122A/B, Unit 2 Pre-Fire Plan Working Floor Reactor Building Elevation 203'

A-43966 sheet 9 A/B, Unit 1 Pre-Fire Plan Diesel Generator Building Switchgear Room 1G

A-43966 sheet 13 A/B, Unit 1 Pre-Fire Plan Diesel Generator Building Switchgear Room 1F

A-43966 sheet 17 A/B, Unit 1 Pre-Fire Plan Diesel Generator Building Switchgear Room 1E

A-43966 sheet 73 A/B, Unit 1&2 Pre-Fire Plan Diesel Fuel Storage Tanks

A-43966 sheet 43 A/B, Unit 1 Pre-Fire Plan Condensate Storage Tank

**Section 1R06: Internal Flood Protection****Condition Reports**

534897, 534596, 514614

**Work Order**

324615

**Documents**

HNP-2-FSAR Chapter 9.3.3.2.2.B

Procedure 52PM-Y46-001-0, Inground Pullbox and Cable Duct Inspection For Water, Ver. 8.0

NMP-ES-051-004, Pull Box Inspection Procedure, Ver. 1.1

Generic Letter 2007-01

**Section 1R11: Licensed Operator Requalification**

Drill Scenario: [Number] i.e. LR-SE-00126-01

LR-JP-01.24, From outside CR During a CR Evacuation, Maximize CRD Flow

LR-JP-02.04, Startup a RFPT (Normal Method)

LR-JP-13.61A, Vent Primary containment with CAD System (Alt Path)

LR-JP-20024, Actuate the Diesel Generator Room CO2 System (Alt Path)

LR-JP-20059, Determine the Evacuation Route During an Emergency

34AB-P51-001-2, Loss of Instrument and Service Air System or Water Intrusion into the Service Air System, Ver. 4.9

34SO-P11-001-1, Condensate Transfer System, Ver. 13.0

**Section 1R12: Maintenance Effectiveness****Other**

System Health Report – Unit 1 residual heat removal system – 2nd quarter 2012

System Health Report – Unit 1 condensate and feedwater system – 3 quarter 2012

System Health Report – Unit 2 condensate and feedwater system – 3 quarter 2012  
 [System Number] Maintenance Rule (MR) Scoping Manual Documents  
 [System Number] MR Performance Criteria  
 E11 Maintenance Rule (MR) Scoping Manual Documents  
 E11 MR Performance Criteria  
 1-2 N21 MR scoping manual documents  
 1-2 C32 MR scoping manual documents  
 NMP-ES-002, System Monitoring and Health Reporting, Ver. 15.1  
 PRA-BC-H-11-001, Maintenance Rule Risk Ranking and Performance Criteria Assessment  
 TE 313730  
 TE 314065

### **Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation**

#### Procedures

90AC-OAM-002-0, Scheduling Maintenance

#### Other

Equipment Out of Service calculations 9/29/12-10/5/12  
 Equipment Out of Service calculations 10/6/12-10/12/12  
 Equipment Out of Service calculations 11/3/12-11/9/12  
 Equipment Out of Service calculations 11/10/12-11/16/12  
 Equipment Out of Service calculations 12/1/12-12/7/12

### **Section 1R15: Operability Evaluations**

#### Procedures

NMP-AD-012, Operability Determinations and Functional Assessments, Ver. 8.0

#### Technical Evaluations

548475

#### Other

Control room logs dated 11/15/12  
 Operating Experience Smart Sample 2012/02  
 LT-02801, Emergency Diesel Generators  
 E.I. Hatch Nuclear Plant Technical Specifications and Bases  
 E.I. Hatch Unit 1 and Unit 2 Final Safety Analysis Report

### **Section 1R19: Post Maintenance Testing**

#### Work Orders

378202, 364547, 320159, 343377, 374433, 317208

#### Procedures

95IT-OTM-001-0, Maintenance Work Order Functional Test Guideline, Ver. 5.4  
 34SV-E11-002-2, RHR Valve Operability, Ver. 22.7

#### Condition Reports

532540

**Section 1R22: Surveillance Testing**Condition Reports

540670

Procedures

34SV-E11-001-2, Residual Heat Removal Pump Operability, Ver. 18.3

Other

GE-NE-0000-0024-9858 R2, GEH letter

LDCR 2012008

NEI 04-10, Risk Informed Method for Control of Surveillance Frequencies

Plant review committee meeting minutes for SR 3.1.3.2 frequency change

ASME OM Code, In-Service Testing, 2001 Edition

E.I. Hatch Nuclear Plant Technical Specifications and Bases

E.I. Hatch Unit 1 and Unit 2 Final Safety Analysis Report

**Section 1EP2: Alert and Notification System Evaluation**Procedures and Reports

FEMA-43 Report/ANS Evaluation Guide

Edwin I. Hatch Nuclear Plant Unit 1 and Unit 2 Emergency Plan, Ver. 31

2011 Report of the Edwin I. Hatch Nuclear Plant EPZ Prompt Notification System

Records and Data

Tone Alert Radio Weekly Tests

Tone Alert Radio Annual Tests

Special Needs Consideration Lists

2012 Annual Emergency Information Calendar

Electrical Service Connection and Disconnection Reports for 2012

**Section 1EP3: Emergency Response Organization Staffing and Augmentation System**Procedures

Edwin I. Hatch Nuclear Plant Unit 1 and Unit 2 Emergency Plan, Ver. 31

NMP-EP-300, Emergency Preparedness Conduct of Operations, Ver. 16.0

NMP-EP-301, EOF Emergency Response Organization and EP Staff Training, Ver. 7.0

73EP-EIP-018-0, Prompt Offsite Dose Assessment, Ver. 8.7

73EP-EIP-062-0, Operations Support Center Activation, Ver. 7.2

73EP-EIP-063-0, Technical Support Center Activation, Ver. 11.2

75TR-TRN-001-0, Emergency Preparedness Training, Ver. 11

Records and Data

Current ERO Roster

2012 Quarterly ERO Augmentation Telephone Response Drill Reports

ERO Training Records

ERO drive time estimates

Corrective Action documents

437099, Plant ERO duty list included a former employee

480608, Perform a Training Gap Analysis

#### **Section 1EP4: Emergency Action Level and Emergency Plan Changes**

##### Change Packages

NMP-EP-110, "Emergency Classification Determination and Initial Action," Ver. 3.0

NMP-EP-110, "Emergency Classification Determination and Initial Action," Ver. 4.0

NMP-EP-111, "Emergency Notifications," Ver. 7.0

NMP-EP-112, "Protective Action Recommendations," Ver. 2.0

#### **Section 1EP5: Maintenance of Emergency Preparedness**

##### Procedures

Edwin I. Hath Nuclear Plant Unit 1 and Unit 2 Emergency Plan, Ver. 31

00AC-REG-001-0, Federal and State Reporting and Document Posting Requirements, Ver. 6.7

73EP-ADM-001-0, Maintaining Emergency Preparedness, Ver. 6.2

73EP-INS-001-0, Emergency Equipment Inventory, Ver. 4.1

73EP-INS-002-0S, Emergency Response Facilities Supplies Inventory, Ver. 1.3

73EP-TET-001-0, Control and Testing of Emergency Equipment, Rev. 10.2

NMP-AD-008, Applicability Determinations, Ver. 15.1

NMP-AD-008-F01, Applicability Determination, Ver. 7.1

NMP-AD-008-F04, 10 CFR 50.54(q) Screening/Evaluation, Ver. 4.1

NMP-EP-111, Emergency Notifications, Ver. 5.0

NMP-EP-303, Drill and Exercise Standards, Ver. 11.1

NMP-EP-305, Equipment Important to Emergency Response, Ver. 1.1

NMP-EP-305-GL02, HNP Equipment Important to the EP Function, Ver. 2.0

NMP-EP-310, Maintaining the Emergency Plan, Ver. 2.0

NMP-GM-002, Corrective Action Program, Ver. 12.1

NMP-GM-002-001, Corrective Action Program Instructions, Ver. 29.0

NMP-GM-003, Self-Assessment Procedure, Ver. 18.0

NMP-GM-003-001, Self-Assessment Instructions for Focused Area Self-Assessment (FASA), Ver. 2.0

NPM-GM-002-001, Corrective Action Program Instructions, Ver. 29.0

##### Records and Data

42SV-X75-001-1, Testing of TSC Filter Train, Ver. 6.3 performances dated 10/8/2008 and 4/12/2012

42SV-X75-002-1, TSC HVAC Operation and Test, Ver. 2.0, performance dated 11/10/11 and 4/19/2012

Screening/Evaluation HNP-12-008-00, Narrow-banding Kenwood UHF Radio Repeater System

Screening/Evaluation HNP-12-009-00, Change to TSC Delta-P Alarm Setpoints

Screening/Evaluation HNP-12-046-01, Revision to Technical Specification 5.2.2g

Screening/Evaluation HNP-12-013-00, Emergency Exposure Control

Evaluation MDC 2101538901, Replace Reactor Building Ventilation Stack Radiation Monitor

2011 EP Exercise 01, 02, 03 and 04 Reports

2012 EP Exercise 01 and 02 Reports

73EP-INS-001, Emergency Equipment Inventory, Dated 06/08/11, 09/12/11 10/13/11

73EP-INS-002-0S, Emergency Response Facilities Supplies Inventory, Dated 07/29/11, 10/28/11, 01/23/12, 04/20/12, 07/24/12, and 10/22/12

2012 10 CFR 50.54(t) letters for various offsite governmental authorities

2012 Agreement Letters for various offsite governmental authorities and medical service providers

C-EP-2012, Fleet Oversight Audit of Corporate Emergency Preparedness Program, Dated 02/22/12

HP-EP-2012, Fleet Oversight Audit of Emergency Preparedness, Dated 02/06/12

Corrective Action documents

2011106603, TSC differential pressure could not be maintained above setpoint

2011106718, Objective A-1 was not met

369716, ENN Notification was inaccurate

422749, TSC Damper Failed Leakage Testing

440509, Objective A-1 was not met

440617, offsite agencies not notified of changes in PARs within 15 minutes

44107, TSC Filter Train Found Running

441574, NMP-EP-305 not referenced by NMP-GM-006

486212, Power Panel Loads Require Evaluation

545201, Procedures and charts not updated in TSC Document Control Room

553309, Field Monitoring Team HP instruments batteries

**Section 40A1: Performance Indicator Verification**

Procedures

NMP-EP-110, Emergency Classification Determination and Initial Actions, Ver. 5.0

NMP-EP-111, Emergency Notifications, Ver. 7.4

NMP-EP-112, Protective Action Recommendations, Ver. 3.0

NMP-GM-006, Work Management, Ver. 12.5

00AC-REG-005-0, Preparation and Reporting of NRC PI Data, Rev. 6.2

Records and Data

Documentation of Performance Indicator data from October 1, 2011, through September 30, 2012 for DEP and ERO

Edwin I. Hatch Nuclear Plant Mitigating Systems Performance Index Basis Document, Ver. E

Unit 1 Cooling Water System Derivation Report Unavailability Index dated 11/28/12

Unit 1 Cooling Water System Derivation Report Unreliability Index dated 11/28/12

Unit 2 Cooling Water System Derivation Report Unavailability Index dated 11/28/12

Unit 2 Cooling Water System Derivation Report Unreliability Index dated 11/28/12

Unit 1 Heat Removal System Derivation Report Unavailability Index dated 11/28/12

Unit 1 Heat Removal System Derivation Report Unreliability Index dated 11/28/12

Unit 2 Heat Removal System Derivation Report Unavailability Index dated 11/28/12

Unit 2 Heat Removal System Derivation Report Unreliability Index dated 11/28/12

Licensee Event Report 1-2012-004

Licensee Event Report 1-2012-003

Licensee Event Report 1-2012-002

Licensee Event Report 1-2012-001

Corrective Action documents

440617, 440609, 488869 DEP Failures

554123, Correction to April 2012 NRC PI supporting data is needed

**Section 40A2: Identification and Resolution of Problems**Condition Reports

407665, 541500, 549157,

Technical Evaluations

320747, 362050

Other

Common Cause Analysis Report 194285, ER Clock Resets January 1, 2011 – May 31, 2012

E.I. Hatch Nuclear Plant Technical Specifications and Bases

E.I. Hatch Unit 1 and Unit 2 Final Safety Analysis Report

**Section 40A3: Event Follow-up**Condition Reports

424676, 423544, 423904, 421971, 422294, 422375, 422275, 487060

Corrective Action Report

194350

Documents

Fairbanks Morse Engineering Report, Genset Operations Without Service Water, dated March 4, 2010

Procedures

52PM-R22-004-0, Westinghouse 50DHP-VR-250U Breakers, Ver. 3.0

34AB-R43-001-1, Diesel Generator Recovery, Ver. 3.0

34SO-R22-001-1, 4160 VAC System, Ver. 19.0

34AB-R22-002-1, Loss of 4160V Emergency Bus, Ver. 1.9

50AC-MNT-001-0, Maintenance Program, Ver. 33.0

Drawing

H-13414, Elementary Diagram Diesel Generator 1C, Ver. 48.0

H-13534, Wiring Diagram 4160 V SWGR. Bus 1G FR. 1, Rev. 9.0

Other

E.I. Hatch Nuclear Plant Technical Specifications and Bases

E.I. Hatch Unit 1 and Unit 2 Final Safety Analysis Report

**Section 40A5: Other Activities**Miscellaneous

A-45087, Data Sheet for CS and RHR Jockey Pump, Rev. 0

S-59895, Gas Accumulation Evaluations for GL 2008-01, Ver. 1.0

DCR 81-138, General Notes for Installing Wall Mount ATTS Instrument Racks, Rev. A

Seismic Walkdown Checklist 1T41-B002A

Seismic Walkdown Checklist 1H21-P016

Area Walk-By Checklist, Reactor Building 106' SE Diagonal

E.I. Hatch Nuclear Plant Technical Specifications and Bases

E.I. Hatch Unit 1 and Unit 2 Final Safety Analysis Report

Drawings

H-16329, Unit 1 RHR System P&ID, Sheet 1, Ver. 78.0  
 H-16330, Unit 1 RHR System P&ID, Sheet 2, Ver. 67.0  
 H-16331, Unit 1 Core Spray System P&ID, Ver. 35.0  
 H-26014, Unit 2 RHR System P&ID, Sheet 1, Ver. 63.0  
 H-26015, Unit 2 RHR System P&ID, Sheet 2, Ver. 57.0  
 H-26018, Unit 2 Core Spray System P&ID, Ver. 40.0  
 B-43459, Unit 1 Reactor Building Anchorage Modifications for RHR/CS Pump Room Coolers  
 1T41-B003B & 1T41-B002A Plan, Rev. 0

Calculations

33-E11-4, Setpoint Determination of E11LSN040 and Its Loop Uncertainty, Rev. 1  
 33-E21-3, LS-N010A, B Core Spray Header, Rev. 0  
 BH2-CS-52-2E11-09, 2E11-LS-N041 RHR Spray Header A Water Level, Ver. 1.0  
 SCNH-11-030, Local Area Flooding Analysis for Hatch ISFSI

Condition Reports

438745, 438822, 440645, 440646, 441302, 441333, 441340, 441695, 441863, 455919, 493978,  
 536552, 536563, 536522, 536527, 536537, 536543, 535078, 510636, 520468, 510649, 510653,  
 509869, 509872, 509888, 509858, 506741, 506493, 498084, 498090, 498070, 500458, 500474,  
 499098, 499103, 499092, 499095, 499042, 499019, 498979, 517204

Procedures

34SV-SUV-017-1, Core Spray and RHR Keepfill Surveillance, Ver. 9.2  
 34SV-SUV-017-2, Core Spray and RHR Keepfill and RHR Cross Header Valve Check, Ver. 9.1  
 42EN-MON-001-0, Monitoring and Trending of Gas Accumulation in Safety Injection Systems,  
 Ver. 3.0

Completed Testing

34SV-SUV-017-1, Core Spray and RHR Keepfill Surveillance, dated 09/18/2012  
 34SV-SUV-017-1, Core Spray and RHR Keepfill Surveillance, dated 08/21/2012  
 34SV-SUV-017-1, Core Spray and RHR Keepfill Surveillance, dated 08/01/2012  
 34SV-SUV-017-2, Core Spray and RHR Keepfill and RHR Cross Header Valve Check, dated  
 09/10/2012  
 34SV-SUV-017-2, Core Spray and RHR Keepfill and RHR Cross Header Valve Check, dated  
 08/03/2012  
 34SV-SUV-017-2, Core Spray and RHR Keepfill and RHR Cross Header Valve Check, dated  
 07/11/2012  
 34SV-SUV-017-2, Core Spray and RHR Keepfill and RHR Cross Header Valve Check, dated  
 07/10/2012  
 34SV-SUV-017-2, Core Spray and RHR Keepfill and RHR Cross Header Valve Check, dated  
 07/03/2012  
 34SV-SUV-017-2, Core Spray and RHR Keepfill and RHR Cross Header Valve Check, dated  
 06/14/2012

34SV-SUV-017-2, Core Spray and RHR Keepfill and RHR Cross Header Valve Check, dated 06/10/2012

34SV-SUV-017-2, Core Spray and RHR Keepfill and RHR Cross Header Valve Check, dated 06/01/2012

Condition Reports Generated As a Result of TI-177 Inspection

527881, Potential Aggregation of Suction Voids not Accounted for in Procedure

529116, Monthly RHR and Core Spray Keepfill Procedure Enhancements

529234, Potential Formation of Voids in RHR/Core Spray Piping during Valve Surveillances

529468, Technical Specification Surveillance Vulnerability Identified during NRC Gas Accumulation Inspection